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ABSTRACT

The overall purpose of this study (comprised in volumes 1 through 8) was to provide the National Center for Educational Communication and others with similar functions conceptual-theoretical tools for dissemination and utilization of knowledge. Varied methods included reviewing related literature, consulting theorists in this problem area, writing research memoranda, and trying out promising ideas. Findings show that there is little direct use by practitioners of the vast banks of educational research findings. Volume I of the report sets forth the conclusions and recommendations to emerge from substantive inquiry into the nature of the problem of knowledge utilization in education. The first part of the document offers a summary statement toward a reconceptualization of knowledge utilization in education. Program strategy recommendations for action within institutionalized education and policy recommendations for agencies like NCEC to devote more attention to provide learning opportunities outside institutionalized education are offered. Also included in this volume are critiques of two scholars who offer their reactions to the report and recommendations. Related documents are ED 061 468, and SO 005 889 through SO 005 896. (Author/SJM)

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Final Report

Contract No. OEC-0-72-0243 (519)

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# Toward a Reconceptualization of Knowledge Utilization in Education

Volume 1 of 8 Volumes

January, 1973

SP005 809

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Education

National Center for Educational Communication
(Division of Practice Improvement)

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# ABSTRACT

The purpose of this study was to provide the National Center for Educational Communication and others with similar functions conceptual-theoretical tools for dissemination and utilization of knowledge. We also piloted various media-message packages to illustrate our theoretical ideas. During the process, we reconceptualized the problem in terms of the invention and development of information systems in ways that recognize relevant characteristics of communication systems (see Lee Thayer, Communication and Communication Systems, Homewood, Illinois: Richard D. Irwin, 1968).

Our methods were varied. We mined related literature. We drew heavily on the thinking of top-notch theorists in this problem area. They and we wrote research memoranda, often in the form of essays. We tried out some of those ideas we considered most promising.

Our conclusions: There appears to be relatively little direct use by practitioners (teachers, school administrators, etc.) of the vast banks of educational research findings. This lack of use seems to result in part from the absence of many meaningful interlocks between researchers, teachers, funding agencies, etc. This lack also seems to derive from the nature of the reward systems where such professionals work. We recommend some strategies for action within institutionalized education. And we recommend that agencies like NCEC devote relatively more attention to providing learning opportunities outside institutionalized education.

Final Report

Contract No. OEC-0-72-0243 (519)

# Toward a Reconceptualization of Knowledge Utilization in Education

Lee Thayer

Center for the Advanced Study of Communication

The University of Iowa

Iowa City, Iowa

January 1973

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
National Center for Educational Communication

PREFACE

We present here a most unusual report. It is a report which can become extremely valuable or not to top planners in the National Center for Educational Communication, the new National Institutes for Education, their agents and their clientele.

In our own research and interpretation--yes, and speculation--reported here, we imply quite strongly that:

-unless new relationships develop between sponsors, researchers and clients,

-unless reward systems in the education industry change,

-unless we alter our ways of thinking about knowledge, education, communication, learning, etc.,

reports and research programs, even like this, may impact only as tiny droplets in a great river.

This report is unusual, too, because NCEC's original request and definition of the problems were unusual and, in the light of the experiences we have gone through this year and a half, unusually stimulating.

A reader of this report might well start by reading Research Memorandum #19, "Statistical Methodology of Information Systems," by C. West Churchman, a brilliant philosopher, also expert in mathematics, statistics and operations research. A reader who does not understand Churchman or basically disagrees with Churchman's position will likely miss much of the value of this report. What Churchman

says about the bad fit of traditional evaluation techniques to operational strategies underlies many of the most important ideas developed here.

This should become quickly apparent in reading our summary and recommendations in Section I. Some of the philosophical and theoretical considerations underlying our work Lee Thayer spells out in more detail in Research Memorandum #5, Section IV.

A reader who has stayed with us through Churchman, Thayer, and Section I may begin to see the many strata and facets we have worked with. As he reads further and examines some of our films, videotapes, etc., he may be struck by certain inconsistencies. These might be expected in any project with so many and such diverse contributors. But some of the diversity arises from our attempts on the one hand to develop ideas and suggest operations within the systems and conceptualizations already in use, and on the other to rethink and redefine the fundamental problem in ways which suggest quite different solutions.

A reader will find in this project none of the conventional educational experimentation. Instead he will find operational trial-runs--kind of elementary, see-if-it-works pilot projects. Some of these spawned visible, hearable products. Generally, the technologies and techniques used were ordinary, but the concepts were not. For example, we made or used 16 mm. animated color film, super-8 film promotional spots, film loops for use with Fairchild viewers, audio and video tape cassettes, open live simulation, diaramas, film with sound enclosure, etc. In most of our productions,

we did not strive for professional polish. We feel that that can come later when it appears that the idea is worth the expense.

Too often, we think, technologies and techniques have been offered as educational panaceas. Much more important, from our point of view, are the underlying theory and operational strategies of the people who use them. These notions are amplified in Pilot Study #7 and Research Memorandum #21.

Our search for fruitful ideas relevant to the problem and our redefining of the problem produced extensive bibliography probably useful to us and others in the field. Research Memorandum #7, "Knowledge Utilization in Education: A Review of Significant Theories and Research," by Mary Trapp, is a good example.

We, as investigators, find the greatest value of this report in its provocative, philosophical and conceptual essays. That, in our terms, says something about our own communication systems. These essays formed a basis for some of our riskiest and possibly most fruitful recommendations.

Malcolm S. MacLean, Jr., Ph.D.
Acting Principal Investigator

Lee Thayer, Ph.D.
Principal Investigator

Albert D. Talbott, Ph.D.
Associate Investigator

Iowa City, January, 1973

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B. VIDEO TAPE CASSETTE

Pilot Study #1 8mm ERIC Film (2:00)
Pilot Study #3 Trapezoid Window (4:54)
Pilot Study #4 Video "News" Cassette: PREP Report #25--Improving Teaching Effectiveness (4:05)
Pilot Study #6 Film Loops
- A (4:35)
- B (1:48)

Pilot Study #8 16mm Film "Open Classroom" (9:36)
John Dewey (2:03)
Split Screen (2:40)

C. VIDEO TAPE CASSETTE

Pilot Study #7 "Simulation and Knowledge Utilization in Education"
Version 1 (21:31)
Version 2 (15:15)

D. VIDEO TAPE CASSETTE

News Features prepared under supervision of Malcolm S. MacLean, Jr. and Albert D. Talbott

Public Education in America: If You Listen, This Is What You Hear (6:25)
Public Education in America: Teachers Tell It Like It Is, Like It Should Be (5:45)
Resource: Simulation in Education (15:15)

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F. TEACHING MANUAL AND STUDENT WORKBOOK

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## Introduction

In this section of the report, we set forth the conclusions and recommendations to emerge from our substantive inquiry into the nature of the problem of knowledge utilization in education. Because these conclusions and recommendations frequently take a tack contrary to some of the dominant beliefs and assumptions to be found in the existing literature on this subject, we felt compelled to present them in a relatively unorthodox manner: viz., without the usual scholarly paraphrenalia of citing supporting statements and ignoring unsupporting statements. It is not, however, that the burden of the evidence does not support our conclusions; it is simply that our conclusions and recommendations were reached from a different set of assumptions and from a different orientation. It would thus be misleading and illegitimate to present others' views as either supportive or unsupportive.

Rather, we felt that the other papers and research memoranda offered in succeeding sections of this report provide sufficient intellectual context for our conclusions and recommendations, and that the latter should therefore be presented directly and asked to stand on their own merit. The reader should be aware of this procedure. In this section, he will be able to consider our conclusions and recommendations apart from the typical elaborated rationale. He can consider them for their own merit. If they

interest him, the following papers and memoranda provide, we feel, all of the rationale and supporting evidence that he may require to satisfy his own interest.

We have also included in this section the critiques of two scholars who were not on the research team. We felt that they added some dimensions of understanding and questioning which would be helpful to other readers of this report. We acquired other critiques which, because of the nature of their presentation, were not suitable to present herein, but which were used in finalizing our report.

## Summary Statement: Toward a Reconceptualization of Knowledge Utilization in Education

The ultimate problem of "knowledge utilization in education" is generally stated or assumed to be that of "transferring" or "communicating" the body of educational research and innovation "knowledge" to educators via such means and in such ways that the rate and/or the scope of adoption, adaptation, or other utilization is enhanced. The assumption behind this proposition is generally that such enhancement of utilization will improve the design, functioning, and/or delivery of educational services.

This was, at least, the context within which we undertook, in September, 1971, a year-long study directed "Toward a Reconceptualization of Knowledge Utilization in Education" at the suggestion of NCEC. We were to reexamine and reassess the literature from our own ("communication") conceptual frame of reference, to explore the present state-of-the-art in other ways (e.g., seminars, commissioned papers), and to conduct our own analyses of the process of educational "knowledge" production-distribution-utilization in the U.S., in order to identify any conceptual shortcomings or missed opportunities of application; and particularly we were to explore any new or otherwise insufficiently exploited nonprint means of contributing to the solution of the problem stated above.

During the course of study, we reexamined and reassessed the literature related to the problem thus stated: the literatures on innovation, dissemination, and change; on "knowledge utilization," "technology utilization," and "information transfer"; on organizational and technological barriers and facilitators, decision-making in education, and the socio-ideological context in which these phenomena are set in the U.S.; and related literatures. Those reviews which we formalized are reported in one or more of our Research Memoranda, particularly numbers 6 and 7. Those which we did not formalize became the springboards and the contexts for our own deliberations and the development of our conclusions and recommendations (the latter presented elsewhere in this report).

During the early part of our study, we developed some possibilities for nonprint alternatives to the "dissemination" function in the whole process of educational "knowledge" production-distribution-utilization. Some of these possibilities were explored in small, experimental "pilot studies"; these are separately reported in the final reports on each of the pilot studies undertaken.

Our reexamination and reassessment of the literature, and the empirical weight of our own conceptual alternatives, put us in a somewhat difficult position. Our own conclusions are not entirely consistent with the conclusions which have been drawn by others (e.g., by Havelock, Sieber, Rogers, Carlson).[1] The conclusions which we want to set forth do not follow-on or build upon

those presently available, but must be presented as alternative ways of conceiving of the "problem" and of its "solutions." Thus it would make little sense to use those other conclusions and points of view with which we do not entirely agree as a basis for offering our own. Under these circumstances, it seemed much more appropriate to us to present our conclusions simply as alternatives and not in addition to those available elsewhere.

Thus we make no attempt here specifically to criticize the presently accepted conceptual frame of reference from which NCEC is proceeding. Rather, we would hope that by not doing so to be able to present a contrasting frame of reference whose usefulness to NCEC would be that of a viable alternative to the present ways of conceiving of and working on the "problem."

For purposes of our own reporting here, we feel that our conceptual disagreements are so basic as to militate against any juxtaposition of other conceptual frames in this report. The conclusions we have reached are based upon the same empirical data and research used by other scholars and researchers, and are in no sense offered in lieu of those empirical data and research. But a communication-communication systems point of view separates us conceptually from others even in basic assumptions.

For example: At the most generic level, it seems to us that what is involved in the present dominant way of looking at "knowledge utilization in education" is some outside agencies' concern with the performance of a vested cultural institution (in this case, public schooling and its related political, social, and ideological

paraphernalia). If this is so, then it follows either (a) that the "target" institution is pathological (unviable), or (b) that the now equally-vested concerns of those outside agencies are arbitrary and capricious. It is indeed popular to argue these days that something is seriously wrong with our public schooling; there are few public affairs journals and journalists who haven't gotten onto the bandwagon. But "right" and "wrong," "good" and "bad" in human affairs are not absolutes. They are relative, and they are normative. They are relative in the sense that they can be assessed as to their degree of "goodness" or "badness" only against some standard--e.g., another nation's public schooling system and its performance, an imaginary ideal, etc. They are normative in the sense that the standards for judgment used by people are necessarily those which are founded not in "reality" or in "truth" or in "fact," but in consensus. Psychophysical and communication studies have clearly demonstrated this for many years.[2] It seems odd to us that the assumptions of poor performance, lagging utilization, etc., are taken as facts upon which to proceed. We found no evidence, for example, that the rate and the scope of "utilization" in the schooling system was less than optimum, given whatever may be optimum for that system under those circumstances. We found very little evidence in the literature that such hard but fundamental questions as optimal rate had even been addressed. Yet without that as an empirical standard, we are all (including large numbers of supposed "researchers") left dangling on the whims of popular "opinion" or "theoretical" and research

"fashion." One could, of course, take the position that no enterprise (including the schooling enterprise in the U.S.) is perfect, and that it could therefore be improved. But this begs the issue of why that position has the apparent urgency it does only when taken by persons or agencies outside the enterprise itself.

A second example: When part of the responsibility for the viability of an enterprise is taken on by any person or agency outside that enterprise, then whatever pathologies or shortcomings there were which prompted that external initiative will likely be amplified by the typical efforts made by that outsider to rectify that pathology or shortcoming. For example, the present "crisis" in U.S. schooling (if one accepts that claim) comes at a time of relatively maximum OE involvement. Whatever is done to increase educators' dependence on, or reliance on, OE will continue to amplify the initial weakness or "pathology." This function of dependency in communication systems, and the destructive effects of assuming outside responsibility, have long been acknowledged in psychotherapy (a "communication" cure)[3] and elsewhere.[4] The agricultural development analogy so widely used these days is not altogether appropriate: the rationale and the appeal of agricultural research in the U.S. was to the farmer's self-interest; we found little evidence in the literature that educational researchers or their sponsors are fundamentally concerned with what teachers' self-interests are, let alone how they might be served. The rationale of most of the work that has been done on "knowledge utilization in education" is based in the supposed interests of the OE and its public constituencies in

"better" public schooling. In this respect, the two situations are not only not comparable; they are contrasting.

These examples should serve to illustrate how and in what ways some of our basic orientations--and conclusions--are incompatible with, or inconsistent with, those we found to be dominant in the literatures we surveyed. A third example may further illustrate these differences.

A basic assumption--often implied--in most of the literature we surveyed is that the "problem" has its source or its objective in formal schooling. We disagree. We found no convincing evidence that education is a property of or an exclusive prerogative of schooling. To the contrary, we submit that the overwhelming evidence points to the fact that most of our education takes place outside the school and the classroom. Therefore, to direct most research and development efforts toward the "improvement" (whatever that may mean in this context) of formal schooling institutions, patterns, techniques, etc., seems to us not especially rational or consistent with the basic facts.

One final example of difference in point of departure--and hence of conclusion: Our evaluation of the typical research that is done on human social behavior is that any reasonable, positively-stated hypothesis can be "proved," given a clever researcher. The phenomena of social research and of physical research are different, and this research artifact has its source in the nature of that difference.[5] What this means is that any reasonable, cleverly-researched technique for enhancing dissemination or utilization

of "knowledge" can be experimentally demonstrated to be "effective." However, "effects" in communication research are artifacts not of the treatment, but of the system, since the system, for the purpose of this sort of experimentation or analysis, is logically (since operationally) irreducible. Every dissemination technique will have "effects." Whether those "effects" are construed to be desirable or "positive" will depend upon the position taken by the researcher (or his support) on those "effects."

It should be noted, incidental to this, that the adoption of any innovation or "superior" technique in schooling will lead to an immediate and greatly heightened resistance to further ideas or innovations proferred from the outside. In social systems, what is often called "resistance to change" may be just as functional as "change." Note that if the "change" emerges from within, within the context of the normal functioning of an enterprise such as a school, it is not looked upon as an "innovation," but as a "logical extension" of what is presently being done. Teachers and schools are constantly changing; the system is a human system and this means that it is constantly in evolution--i.e., in the process of becoming what it is. Thus concern with its inadequacy or insufficiency on the part of an outsider raises the question of manipulation or control, both ("theoretically" at least) anathema to the spirit of democracy and freedom. The goals of the U.S. schooling may be a public affair. But the means cannot be a public affair unless schools and educators are to become mere puppets of the public--or of an elite "research-government agency

complex" portending nothing less questionable for our social welfare than that of the "military-industrial complex."

Every "new" technique for "disseminating" or "transferring" educational "knowledge" can be "proved" to be "effective." This seems to us to be the burden of the evidence of most studies of dissemination techniques.[6] The fallacy lies in the belief that some techniques are superior to others--regardless. But a school that is presently not "innovating" may be maximally "utilizing" the available "knowledge"; certainly the school that is deeply involved in implementing a major innovation is not. We are compelled to conclude that the arbitrary, outside-imposed assessment of "utilization" often creates research artifacts which then get "confirmed" in the researcher's manipulations. The fact that everything "works" suggests to us that "everything" is therefore worth doing. This is certainly not consistent with most of the research studies in the literature, which push for one or another "best" way.

Finally, it seems inescapable to us that, in a communication system, the "receiver" is of empirical necessity the de facto creator of the messages which he "consumes" or "utilizes." What is brought into his purview by others, whatever their motives, may serve as the necessary condition of his "utilization" (or not). But the sufficient conditions are a function not of the "message" or its delivery, but of the receiver. At the same time, those sufficient conditions of information acquisition and utilization in receivers have always led to the invention of adequate necessary conditions (information supply networks) where those were wanting.

Thus the ultimate source of the "problem"--if indeed there be a problem except in our own creation of it as "communicational reality" within our own epistemic communities--is in the potential utilizer, and this is where the bulk on NCEC's efforts ought to be directed. The cost effectiveness of any information supply or packaging technique is marginal, at best. But there is a multiplier in any enhancement of "knowledge" utilizers as problem-naming, information-acquiring, inquiring systems, if for no other reason than that the validity or utility of any information is either determined or legitimated by the "others" within one's epistemic communities. The apparent aversion of educators to research data is not a product of those data, but of the epistemic community to which educators belong and within which they acquire and "utilize" information. The multiplier is inside that system, not outside it.

For individual humans, and for the social systems (communication systems) within which they have their consciousness and their existence, "knowledge" is not a commodity but a convenant on which that social system is built. "Knowledge" becomes a commodity only in the hands of those who offer it as an inducement to become more like they want us to be. This philosophy is not therefore, we feel, consistent with the spirit of democracy and freedom.

Be that as it may, however, we conclude, on the basis of our reexamination and reassessment of the literature and our own analysis of the issues at stake, that the "problem" is not how to

get educators to utilize the "knowledge" extant, but how to help them more imaginatively to create and distribute their own knowledge to each other, and how to enhance their competencies as inquiring systems in such ways that they will force the design of external information production-distribution support systems in ways which are consistent and synergistic with their own acquisition and utilization patterns. Others have intimated such a course of action, of course,[7] but only as incidental to the major thrust of NCEC's involvement. We are suggesting the alternative that it be one of two of NCEC's major efforts, the other being the production and distribution of educational information for all citizens, not just for educators (see Policy Recommendation #1).

Below we have suggested some further aspects of our analysis which we believe deserve consideration by NCEC officials and others. Evaluations of our "pilot studies" are presented elsewhere in this report.

PART II

## Summary Statement: Toward a Reconceptualization of Knowledge Utilization in Education

In recent years, there has been increasing criticism of the educational establishment in the U.S. Some of it has been useful; some of it has not. Some of it has been legitimate; some of it has not. Most of it has been little more than fashionable rhetoric.

There are fashions in social criticism, just as there are fashions in dress, hairdos, home design, living styles. Unlike earlier times, these fashions today are either spearheaded or epitomized by mass media-made celebrities. One thinks of the John Holts, the Ivan Illichs, the Silbermans.

There are fashions as well in social "science" research and theorizing, just as there are fashions in the evolution of thought in the "physical" sciences. Much like earlier times, widespread consensus for or against a particular intellectual position takes on the fervor of belief or of myth. One thinks of the sudden interest of social researchers in the black circumstance, in conflict and violence, in human "actualization," and in the social causes and consequences of pollution.

Fashions in thought and in talk--whether in science or in everyday life--are inevitable. They are a given, fundamental to our whole social existence. They are generally harmless games

that people play to determine the "in's" and the "out's," the rights and the wrongs.

But in this instance, in our concern about the fundamental issues underlying the system of knowledge production-distribution-consumption in education, this fashionable rhetoric and these fashions in research and research ideology may both be obscuring what we should be looking at, and deterring us from doing so honestly. There is something basically wrong with the fashionable rhetoric and the fashionable research positions in this area.

To begin: the fashionable rhetoric about the condition of public schooling in the U.S. would have us believe that it has been a monumental failure, that American society should be "de-schooled." This is absurd. To be fashionable, one's rhetoric must dramatize the popular position. This means that if you are going to be a mass media-made celebrity, you must come out with the extreme position. The fellow who says there are some good things about U.S. education, and some bad, gets no publicity. The fellow who most dramatically says it is a total failure and ought to be done away with forthwith, gets wide publicity. The journalist's mind, being fairly limited, attaches itself to the negative, and to the dramatic. The mass media have no way at present of handling the real, the actual, the mundane, the every-day, the rational, the reasoned.

If you want to sell 100,000 copies of your book on the state of American education, you have to be fashionable; you have to play into the hands of the mass media. There is no necessary

relationship between the way things are and the way they are portrayed in the mass media. The more fashionable the cause and the position, the less likely there is to be a substantive relationship between what is said about something and what is really going on. So much for the value of the fashionable rhetoric about the state of the educational establishment in the U.S.

The case of its handling by the social and behavioral research establishments is less excusable. It is best here to go to a central example. There is widespread belief in the educational research establishment (both those who produce that research and those who underwrite it) that the agricultural extension agent concept is a sound analogy on which to proceed in developing ways of enhancing "knowledge utilization" in education. This position is as unjustifiable as it is misleading.

Educators are not farmers. The senses in which the analogy might hold are slight and trivial compared to the senses in which it does not. The farmer does not apply his "knowledge" to people; the educator does. The scientizer, the counterfeit pretender to science, would have us assume away the difference. There is no empirical or logical position by which the difference could be assumed away--and still remain within the rationality of legitimate science. What agricultural research has provided for the farmer are means of producing ever-larger yields, ever-larger ears of corn having but little more food value than their earlier, scrawny, misshapen counterparts.[8] On the face of it, this would be a strange model to presume to in improving educational practice

in the U.S. The "scientifically"-produced "knowledge" about agricultural methods and practices has enhanced farm "productivity," has brought the farmer more "control" over the physical environment, and less victimization by the uncertainties of nature, it is true. If this were the ultimate aim in education, the model might be a more useful one.

A more appropriate analogy would be the Army drill sergeant or the I.R.S. or the auto license plate clerk. U.S. educators work in an enterprise in which the clients are more or less universally conscripted. How is the drill sergeant's practice "improved"? Most of us pay taxes; how is the I.R.S. clerk's "practice" improved? This is where we should be looking for analogies, if at all. If one wants to know whether an analogy "fits," one needs to consider the whole system, not arbitrarily-selected parts of it. The fact that one could devise a scheme for distributing research "knowledge" to educators in much the same way as was done in agriculture in earlier days would hardly justify his concluding that the problems and issues of knowledge production-distribution-consumption in education are the same as they were in agriculture. Conceptual progress comes not from acceding to similarities, but from identifying and exploiting differences.

What, then, are the differences, and what are the basic problems and issues?

The most obvious difference, of course, is that, while the aim of "scientific" farming is that of mastering nature, it could hardly be said that the aim of formal "scientific" schooling

is primarily that of mastering the students, the clients. (It should probably be noted, even if only parenthetically, that belief in the analogic model can well lead the believer to introduce educational practices and procedures which press toward that end, even though he may publicly disdain it. Thus are our aims and practices often at odds with each other in the educational establishment.)

A second obvious difference is that the ultimate "test" of the efficacy of an innovative agricultural practice is farm income. Can the "test" of the efficacy of an educational innovation be the innovator's "profit" or income?

A third obvious difference is that the farmer applies his new practices to a "dumb," or at least obdurate, "nature." Is there any sense in which that "nature" copes back, reacts, participates, understands or does not? Is there any sense in which the clients of formal schooling--parents, children, taxpayers--do not cope back, react, participate, understand or do not?

The differences far outweigh any similarities. The similarities that are argued are usually those of technique or of means, not of essential process or of end.

So, then, to the basic issues: if they are not as widely believed in the research establishment, what do we propose they are, and why?

1. From a purely information-decision systems (cybernetic) point of view, there is a basic issue which will serve well as an

introduction to this whole analysis:

To the extent that the educator's task is determinate and completeable, the information ("knowledge") requirements for that task are specifiable. To the extent that the educator's task is not completeable or determinate, the information ("knowledge") requirements for that task are not rationally specifiable. These are the two ends of the continuum.

An example near each end of the continuum may help to illuminate the underlying issue. If we assume that the central and exclusive task of educators were that of training every student in "reading, writing, and arithmetic," to a specific level of proficiency which could readily be measured, using a measure upon which we all agree (including the students, their parents, the members of the school board, educational journalists, etc.), then it would be possible for either the educators themselves, or for some "outside" expert, to determine what educators would need to know in order to accomplish this task--this completeable (there will be a point in time when it is absolutely accomplished) and determinate (the end product is specifically and exclusively measurable) task. It is altogether clear that it is altogether not so clear what the central and exclusive task of present-day educators in the U.S. is. Nor is there widespread agreement about what that task should be, nor how its performance or accomplishment ought to be measured. And it only muddies the waters to try to get clear about the latter without getting clear about the former.

On the other hand, if we assume that one of the aims of the educational task is that of helping students learn how to learn which is ultimately an individual matter, and which is ultimately an aspect of lifestyle and is not readily measurable--then how would one determine what the educator (or the student) would need to know in order to accomplish that task, which is itself neither completeable nor determinate? It is not just unfortunate that we cannot do so. Nor is it "merely a matter of time" until the social and behavior "sciences" will resolve this dilemma for us. It is an empirical given. If we cannot accept it and live and work within it, then we will create (as we have done) all sorts of pseudo-problems which are not only trivial and inconsequential, but which deter our attention from this underlying issue.

In the context of the present study, there are at least two conclusions to be drawn. First, it will not be possible clearly to separate the determinate-completeable aspects from the indeterminate-incompleteable aspects of the teacher's task (and the school's) until there is widespread clarity and consensus on the answers to two questions: What kind of people do we want? And, what is the particular role of formal schooling--in the larger context of all educational experiences and endeavors--in enabling or furthering that specified end? Apart from this clarity and consensus, it makes little sense (at least rationally) either to praise or to condemn our present practices. Without this level of clarity and consensus, there is little rational basis on which to assess whether or not the "knowledge" producers are

producing what is needed, whether or not the "knowledge" brokers, distributors, and promoters are most effectively acquiring, "packaging," and disseminating that "knowledge," or whether the nature and the rate of consumption (i.e., utilization) is good or bad. If the information system is to be assessed and designed and manipulated, then the system criteria will have to be specified to a high level of clarity and with a high level of social consensus. Anything short of this is but another form of "muddling through."

The second conclusion to be drawn is that it is only the completeable and determinate aspects of a task or a task system which can be "scientifically" modelled in the traditional way and, hence, logically assessed or prescribed. Therefore, if we do not clearly separate those aspects of a teacher's or a school's task which are, and those which are not, determinate and completeable, we stand to create problems where none existed and to obscure those problems and opportunities which do exist. The reason is simple enough. The information (or "knowledge") requirements for a determinate and completeable task can logically be specified in advance. For those tasks which are neither determinate nor completeable, the information ("knowledge") requirements for carrying it out cannot be specified in advance. The crucial educational competence in the first instance is the ability to <u>apply</u> the relevant "knowledge." The crucial educational competence in the latter instance is the ability uniquely to <u>determine</u> what "knowledges" may be relevant, and to find them or develop them.

It should be obvious that these are two different competencies, and that they require quite different information ("knowledge") resources and networking.

It should also perhaps be noted in passing that those educator and school tasks which are completeable and determinant can be standardized; those which are not cannot be standardized. To the extent that standardization may be necessary to the delivery of even adequate schooling in a democracy with universal conscription of pupils, the distinction between those aspects of an educator's and a school's tasks which are determinate and completeable and those which are not is not only essential; it is prerequisite to the intelligent support and promotion of practice improvement in schooling.

2. A second basic issue to be corsidered is that education, to the extent that it is concerned with human learning and not just with skill or behavioral training, is an operational and not a scientific discipline.

For several years, there have been both explicit attempts and implicit pressures to make education more "scientific." The latter are but symptomatic of the general popularity of the "scientific" in academic circles, and the various payoffs that come, in those academic circles, from emulating that which is presumed to be "scientific" (typically culminating in one or another form of counterfeit science, or "scientism"). The former are simply misguided, stemming from an unwillingness or an inability to distinguish between operational and scientific disciplines, or

from that blind faith which encourages the indifferent or indiscriminate application of scientistic ideologies and methods to anything and everything.

The implicit aim of western science, at least, is that level of understanding of some aspect of "nature" which would permit at-will manipulation and control. We take the aim of the operational disciplines to be quite the opposite--in the case of human behavior and its consequences, to increase the subject's understanding so as to free him of ignorance, bondage, un-willed manipulation and control, to increase his awareness or consciousness or mental or emotional competence, to equip him with more rationality more creativity, enhanced paths toward actualization, etc. Thus, the goal of studying learning, for example, would be to aid and abet the learner, not the teacher. The aim of studying teaching would be to enhance and enrich the alternative paths toward human competence as a teacher, not to hand the administrator or the teacher's supervisor a stick or a carrot. Excellent cooking, like teaching, is an operational discipline. Good cooks collect a variety of recipes for the same dish; they do not search for the simplifying theory, the solution.

There is more here than may seem so at first recognition. Examples may help to illustrate:

Our "scientistic" orientations, deeply embedded as they are in our culture, would lead us to solve educators' problems rather than to add to them. On the face of it, the comparison between solving educational problems vs. increasing them is absurd.

But we need to look more closely. If a certain number of people did not believe themselves to be "troubled," what would there be for psychotherapists to do? If the "scientizers" came along and solved everyone's problems, what need would there be for any of the "helping" and "caring" occupations? Our ready, "scientistic" assumption is that we should endeavor to "solve" the educators' problems for them--and the more "scientifically," the better. But aren't their problems the stock-in-trade of educators--as they are of people-in-general? What would educators have to talk about to each other if they didn't have their "problems"? Is it not at least possible that educators--as the rest of us do in our everyday lives--"resist" research solutions to their problems not because they resist rationality, or the "scientific" approach, or research per se, but because they would--like the rest of us--cling to that which gives them humanness: their problems, and their awareness and prerogative for naming them, and their "sharing" of them with friends and colleagues?

Is it possible, if there is any merit in this interpretation at all, that one should conceive of "knowledge utilization in education" not only in terms of eliminating educational problems, but in terms of enriching and enhancing the conception that educators have of them? We think there is.

The aim of an operational discipline in this area would be to extend and to enlarge the educators' competencies to conceive of, to name, and conceptually to play with--strategically--their "problems." It seems to us that this would represent a significant

change from the present orientation and approach. In any event, further attempts to "scientize" education--as distinguished from training--would be largely self-defeating, in the sense that successful "scientization" would have the consequence of further equating schooling with education, and thus of limiting the responsibility for and the interest of people in education as a human and lifelong process.

(In this regard, it may be suggestive to consider some of the consequences of the parallel scientization of medicine and health care. Medical "knowledge" has accumulated phenomenally over the past several decades. But the demand for medical services of all sorts has increased just as much or more. Yet to what end? There is some evidence that people in general are less healthy than they were previously.[9] And, for all of the great advances of medical "science," the expected life-span of those who for religious reasons are not permitted to consult physicians or submit to hospital care is but one year less than those who do.[10] Is something comparable what we hope to achieve through the further scientization of formal schooling and education?)

3. A third basic issue is that, in operational disciplines, the utility of any idea, technique, (new "knowledge"), etc. is a matter of (a) its practicability, and of (b) its legitimacy within one's epistemic community. This means (a) that experience generally takes precedence over book-learning; and (b) that folklore and broadly-used and approved of "recipes" take precedence over any "scientifically"- or research-produced data.

It is true that the scientific disciplines determine utility and legitimacy in a somewhat different way--or at least our social science versions of the "scientific method" and the production and dissemination of "scientific knowledge" would have us believe so. However that may be, and there is room for argument here, the one fact which does remain is that there are those people who are more capable of dealing with and using "objectified" data, and there are those who are less capable of doing so. The number of those who can do so with respect to their everyday behavior is relatively small.

The press of scientism, of scientistic orientations and methods, is widespread and deeply embedded in our culture at this time. One central aspect of scientism is that one can and should be "objective," and that, therefore, such things as "properly-conducted" research reports should stand alone--i.e., are to be valued simply because they are put in "objective" language. This "objectivism" leads us to conceive of research data as a commodity.

By contrast, the knowledge which is actually utilized in most human behavior has embodied sources; i.e., the value of an idea depends upon the source's success (or failure) in using it in his own life. The knowledge which is utilized in the operational disciplines generally has this source--i.e., is embodied in this way. Thus the high value placed upon "experience" and "folklore" in operational disciplines such as teaching and in operational institutions like motherhood.

The fundamental epistemology of the scientistically-oriented enterprises and institutions is simply different from the fundamental epistemology of operationally-oriented institutions (such as teaching), and require different knowledge production, packaging, and distribution approaches.

4. If we were to look upon science as a social institution, as we look upon the educational establishment as a social institution, we would likely be forced to conclude that the rate of knowledge utilization in the social institution of science is neither more nor less than the rate of knowledge utilization in the social institution of education. The objectification of "knowledge" in the physical sciences and technology permits the construction of a logical edifice of accumulated "knowledge" out of appropriately fitted bits and pieces. So there is the illusion that the rate of knowledge utilization in the physical sciences is greater than that in the schooling establishment.

But we use two different criteria. In the case of the physical sciences, it is the rate at which the objectified edifice is being logically added to. In the case of schooling, it is the rate at which educators and their organizations "innovate," "change," "progress," etc. The underlying philosophies, beliefs, and practices in institutionalized science and technology change over time no more rapidly and perhaps no more slowly than do the underlying philosophies, beliefs, and practices in institutionalized schooling. It is in the nature of human institutions, particularly in a massive democracy, that they

change but slowly. The nature and rate of knowledge utilization in any institution is internally regulated. There will always be those members of any epistemic community who will go outside the conceptual boundaries of that community to bring into it new ideas, new possibilities, alternatives for change, etc. These members--whether they be referred to as "opinion leaders," "change agents," "innovators," or whatever--are relatively more susceptible to the entreaties of certain outsiders; because they are a threat to the existing institutional structure (both ideological and social), their own status is often tenuous, and this tends to increase their susceptibility to outside influences. To try to change existing institutions from the outside, through these often marginal members, perhaps ought not be defined by the euphemism "knowledge utilization." If the question is, "How are we going to get those bastards to change and start doing things 'better' ('right,' 'our way,' etc.)?" then the answer has to lie in the use of strategic power or strategic influence.

Let us be perfectly clear about this. If the "problem" is, indeed, that of "knowledge utilization" in the educational establishment, then the solutions have to be those which would enhance that institution's capacities for changing itself. If the preferred solutions are those which look like they would facilitate our (outsiders) changing "them" in the directions we think best (even if for them), then the problem has covertly been defined as one of changing "them" (a control, power, or influence problem). The latter involves far more than "knowledge utilization,"

and raises issues which go far beyond those of data packaging, distribution, etc.

5. What is the rate of "knowledge" utilization within the institution we know as the "family"? How much have its basic ideologies, philosophies, and practices changed over the years? Given the vested interest of taxpayers, parents, politicians and others in local educational establishments, can the rate of "knowledge utilization" in education be greater than that in those institutions in which those persons having vested interests are rooted? What is the rate of "knowledge utilization" in the OE? Is the OE a significantly more effective bureaucracy now, given the considerable research that has been done on organizations, bureaucracy, change, innovation? If not, why not? (The answers to this would shed much light on the other problem.) If so, how did it come about? (The answers to this would shed much light on the other problem.)

In one sense, our schools are already better than the people who attend them and the people who attempt to regulate them and change them from outside. We don't need more research on "knowledge utilization" in "education." If all the rest of us were utilizing the knowledges relevant to our own circumstances and endeavors at an optimum rate, the educational establishment would come into line of its own accord. If we are not, then we are simply creating most of the problems that we are pretending to solve. If we assume, for example, that by "knowledge utilization in education," we are referring ultimately to whether and what

educators are learning of relevance to their own competence and performance, then John Bremer's theory of learning is pertinent. Bremer takes the position that there are only two conditions for learning: first, that the learner (e.g., educator) has the necessary physical and mental equipment for learning; and second, that what is to be learned is widely and centrally practiced in that learner's (educator's) society. If the pupils don't "learn," we blame the schools. If the educators don't "learn," are we consistent if we blame them? There is something much more basic at issue here--viz., the uniqueness and social illegitimacy of the learning and changes we want educators to undertake.

6. Closely related is the fact that resistance to change in organizations and social institutions is as functional as is championing of change. One interesting corollary of this is that where "change" has become the norm, "resistance to change" is more innovative than is "change."

There is an even more generic phenomenon involved here. Using formal schooling as an example may help to suggest how it can spread throughout a society.

In the U.S. pattern of conscription schooling, the responsibility for the pupil's "knowledge utilization" has shifted from him to the teacher. Little by little, the teacher's responsibility for her own "knowledge utilization" has shifted from her to supervisors, curriculum specialists, researchers, boards, and the like. More recently, the school's prerogatives and responsibilities

in this area have been shifting from the school to the "public," through mass media-created spokesmen and the continuous monitoring of "public opinion." As the boundaries of prerogative and responsibility have shifted, something peculiar but inevitable has happened: not only does the pupil not need to be responsible for his own "knowledge utilization"; he cannot be. Nor can the teacher, in practice. Given that her salary and fringe benefits are largely set on the basis of degrees and hours and years of service, what real incentives are there for the individual teacher to innovate, to improve her practice? Some will do so, of course, out of habit or compulsion. But is the individual innovator ever a hero in the eyes of his own less ambitious or less capable colleagues?

So the focus has shifted to the school itself. The question has become: How can we get the schools to "innovate," to "experiment," to "improve," "progress," "utilize the available research 'knowledge'"? It will not be long, following this path, before the individual teacher will not only not have to be responsible for her own "knowledge utilization"; it will be relatively impossible for her to believe that she might be so.

It seems counter-productive for the OE to feed this trend. Given its charter, it would make more sense for OE to attempt to reverse this trend. In any event, this is a basic issue with which the OE and the NIE should be contending.

7. A further basic issue is that it should be perfectly clear to all--given the research on the subject--that "knowledge"

or information as such does not necessarily improve problem-solving. In the first place, no amount or kind of information ("knowledge") has much utility if the problem-solver is asking the wrong questions or naming the wrong problems. Secondly, the mere existence or availability of relevant information ("knowledge") is rarely sufficient.

In human information-decision systems, the availability of relevant data is never a sufficient condition. It may or may not be a necessary condition. The sufficient conditions inhere both in the decision-maker (i.e., the problem-namer) and in the social system in which he is embedded. There is no way of substituting even the most elaborate data system for these sufficient conditions. The assumption--implicit or explicit--that the ultimate problem is the production and delivery of relevant "knowledge" is simply wrong.

8. The application of wrong or inappropriate criteria to an enterprise or its performance may lead not only to increased dysfunctions within that enterprise, but to increased strain and discontinuity between that enterprise and its larger social environment. It would seem not altogether reasonable to assert that our schools have either "failed" or "succeeded," in view of the fact that we are not altogether clear about just what they should be doing. There has been increasing talk of making schools more accountable. Accountable to whom for what? Do we talk in the same way about making science more accountable? Organized religion? Poets?

The semantic trickery of attributing our problems and causes to some abstraction leads us down strange paths. Can the "schools" be accountable if the pupils are not? If the schools are not given legitimate means of making the pupils accountable, is there any but the most illogical sense in which those same "schools" could be held accountable? If the business of the pupils were precisely that of "knowledge" acquisition and "utilization," wouldn't the function and the role of the educator be quite different? And, would not the issue of "knowledge utilization in education" take on quite a different form? Would not the criteria for "knowledge" production, distribution, and "utilization" be quite different under those conditions?

To an intriguing degree, the present problems of "knowledge utilization" in "education" are red herrings. They are red herrings because we have created the problems which we pose for solution, and because any solution to the problems as stated will increase, not resolve, those problems. The ideological, physical, and institutional separation of the "researcher" from the "practitioner" in the educational establishment creates a pseudo knowledge-utilization "problem" which, if solved in that context, would simply increase the "problem," as the record of attempts to resolve this "problem" in the long-run attests.

"Improvement" is not in and of itself of value. If we want the schooling enterprise to be healthy and viable--at least in the one sense of self-directed "knowledge utilization" and change--then the prerogative for setting its performance criteria

must be solely its own. To the extent the criteria and the means are or must be imposed from the outside, the health and viability of that enterprise will continue to deteriorate. Successively more direction and control will have to be imposed upon it.

This, of course, is but one instance of the larger dilemma implied in the democratic philosophy of society. But it is the fundamental dilemma for any agency, public or private, which would undertake to "fix" or improve the schooling enterprise in this society from outside of it. It would be heartening to see the OE take a less naïve position on this dilemma than has been the case in the past.

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[2]Cf., e.g., M. Sherif and C. I. Hovland, Social Judgment (New Haven: Yale University Press, 1961); M. Sherif, The Psychology of Social Norms (New York: Harper, 1936).

[3]Cf. W. Glasser, Reality Therapy (New York: Harper & Row, 1965).

[4]L. Thayer, "Communication Systems," in E. Laszlo (ed.), The Relevance of General Systems Theory (New York: Braziller, 1972).

[5]A. H. Maslow, The Psychology of Science (New York: Harper & Row, 1966); cf. A. L. Edwards, The Social Desirability Variable in Personality Assessment (New York: Dryden Press, 1957), and R. Rosenthal, Experimenter Effects in Behavioral Research (New York: Appleton-Century-Crofts, 1966).

[6]Cf., e.g., E. M. Rogers, op. cit., and Diffusion of Innovations (New York: The Free Press, 1962); and R. G. Havelock, op. cit., and elsewhere, viz., "Innovations in Education: Strategies and Tactics" (Center for Research on Utilization of Scientific Knowledge, The University of Michigan, 1971).

[7]W. J. Paisley, "Perspectives on the Utilization of Knowledge," address to the American Educational Research Association, Los Angeles, February, 1969; and "Recommendations for the Dissemination and Utilization Program of the National Institute of Education," prepared for the USOE-NCEC Research Advisory Committee on Change Processes in Education, April, 1972.

[8]Lewis Herber, Our Synthetic Environment (New York: Knopf, 1962).

[9]Ibid.

[10]Dwight J. Ingle, "Genetic Bases of Individuality and of Social Problems," Zygon, Vol. 6, No. 3, September, 1971.

## Policy Recommendations

This section sets forth the major policy recommendations to emerge from this study.

1. The U.S. Office of Education should systematically set about to divest itself of its almost exclusive preoccupation with schooling, and just as systematically begin to develop a much broader concern with education--a society-wide and lifelong human process. "Educational research" relevant only to those who are paid functionaries of formal school systems of one sort or another ought not be referred to or understood as educational research. Educational research must be developed for and made relevant to all American citizens engaged in education--literally every American citizen, but particularly parents and youth, who serve as learning peers for one another, a form of education more potent than any other. There will remain a place in OE's programs for research on schooling. But our analysis suggests that at least some of the problems we face today in U.S. schooling come from our confusion of schooling with education, a confusion which OE has contributed to. We suggest that many of these problems could be eliminated--or at least obviated--if OE would take the lead in reorienting the schooling establishment, and the general public, to education as a nonlocational, nonscheduled process fundamental to the lives of all American citizens, through all of their lives and regardless of their circumstances. OE's research and program policies should begin to reflect this reorientation. This

recommendation is particularly appropriate to the National Institute of Education, and to its initial formation.

2. Closely related is our conclusion that, despite calls to the contrary, it is highly improbable that any combination of programs, policies, etc., could turn the present schooling establishment around (or upside-down, or inside-out). Formal schooling of all sorts now comprises a fundamental American institution--politically, economically, socially, and ideologically vested in the larger society and the lives of its people. There is no evidence that such a basic institution has, in a democracy, ever significantly modified itself in the short-run. To undertake to change such an institution from the outside is not wholly consistent with the democratic spirit of freedom. It is our conclusion, therefore, that any program for practice improvement has limited cost effectiveness, a fact given not in the lack of imagination or competence of educators, researchers, policy-makers, etc., but in the nature of the circumstances. For this reason, we propose that OE (and particularly NIE) lower the priority of changing the present schooling establishment, and raise the priority of working <u>beside</u> this entrenched institution in the development of new agencies, new institutions, etc., designed to further the educational interests and prerogatives of <u>all</u> American people. We suggest that this approach would develop the kinds of pressures and influences from without the present schooling establishment which would <u>optimize</u> the self-determined utilization of relevant ideas and innovations within it.

3. As developed elsewhere in this report, there are both control and non-control aspects of formal schooling, given the system criteria. Based on the same line of reasoning as above, we propose that such a conceptual distinction between education and schooling would permit more direct and more cost effective enhancement of those factors in formal schooling which do determine its "effectiveness" or "success." That is, the question is not only what can be accomplished in formal schooling, but what would be left to be accomplished in formal schooling, given the ultimate optimization of all human education which should be central to OE's (and NIE's) basic policies. What can best be accomplished through educational opportunities for all Americans should be accomplished outside of formal schooling. This would clarify the schooling task in such a way that its support activities (such as "research") could more single-mindedly be designed and assessed. In addition, the applications and utilization of these support activities could be made considerably more cost effective.

4. This shift of priorities, along with the development of non-school-related educational research and programs, will likely lead to a redefinition of both formal schooling and of "teachers" and their tasks. One reason why "teachers" and schools have not been quick to adopt new ideas and to adapt new technologies is that their tasks have traditionally not been defined in such a way as to encourage such behavior. Teachers are, whatever else they may be, paid functionaries of an entrenched bureaucracy whose clients or "customers" are more or less conscripted. If we looked upon the teaching and schooling tasks as problems in engineering, for example, not only would it be much

clearer what needs to be known in order to do a better job, but the rapid adoption of teaching-learning-educational technology would become a normal aspect of everyday activities. The teacher who is a classroom "engineer," for example, or a "manager of learning experiences," would have an orientation to his task and role much more conducive to the utilization of new techniques and technologies.

5. The "market" for educational research has generally been presumed to be paid educators. There is a market for certain kinds of information by teachers, principals, etc., however, which is largely being unfulfilled. Given the proposition that practicing teachers are more to be compared with hired engineers or clerks than with other "professionals," it is clear that educational "research" and its investors are not providing much of what might fulfill this market. What engineers and clerks and supervisors have a need for is applied, not "research," information. What teachers and other paid educators express a need for is recipes, not theories or research data. Thus the redefinition suggested above might encourage the development of a pattern of services and "products" that would begin to fulfill this market.

At the same time, very little systematic and centralized effort is directed toward the larger market for educational "knowledge": that market being every U.S. citizen, but particularly parents and their children, the prime market for "knowledge" about education. For this reason, we believe that OE (and particularly, again, the NIE) should begin to decrease its preoccupation with formal schooling, and

begin to increase interest in these policies directed to, and the resources to be invested in, education in this broader sense.

6. Those schemes and models which promote the development of "linking" or "extension agent" methods of "knowledge transfer" in education will of course have some limited success in formal schooling systems--even though all such techniques and methods have had and will continue to have but marginal "success," for the reasons given above. But the OE (and NIE) should begin to concern itself with education in the broadest sense, and this means all U.S. citizens, and this means that the primary vehicle will have to be mass media--not just the traditional mass media of radio, newspapers, and television, but the rapidly-emerging alternatives as well--e.g., channel TV, video-cassettes, etc.

Education, in the broader sense, is not exclusively the concern of teachers and of schools. Education is a public concern. In the truest sense of both science and of democracy, educational research and educational "knowledge" which is not relevant to the concerns and interests of the people has limited utility and limited impact. Maximum utilization of educational research "knowledge" would be its maximum utilization by the maximum number of citizens, not its partial utilization by a relatively few paid functionaries. Education, unlike applied science, is something which every American citizen engages in himself, and provides for others. To acquaint large numbers of people with whatever educational knowledge might be relevant to this basic human process will require the reach and the power of the mass media. Our "Program Recommendations" suggest some possibilities in this direction.

7. What is important to people is not what is knowable, but what is known. What is known is what is talked about within a given epistemic community of people. What is talked about within a given epistemic community generally reflects the nature and the degree of discrepancy between what is, and what might be, or ought to be. Epistemic communities emerge out of and serve to legitimate and reinforce human metaphors of good and bad, right and wrong, of what is and what should be. Those epistemic communities which comprise the American culture do not, in large, have viable and valued metaphors of what it is to be an educated (educable, learning, growing) human being. We have the metaphors of what it is in our society to be schooled. But we do not have appropriate, viable, believable, strong metaphors of what it is to be educated. Nor do we value education as such; we value schooling and its paraphernalia--e.g., diplomas, degrees, buildings, curricula, technology, numbers.

We do not argue that this is wrong. We do, however, suggest that it is an implicit obligation of the OE (and certainly of the new NIE) to invest some of its resources in the creation and development of alternative educational metaphors by which large numbers of people might live--better, more fully, more confidently and purposefully, more rationally, more sensitively and concernedly. We recommend that the OE (and the NIE) raise the priority of this effort, and we suggest that the appropriate medium and vehicle is the mass media.

8. The development of data packaging and distribution centers is but one aspect of any overall scheme for supporting and promoting educational opportunities and knowledge for all people of all ages at

all times. While such data banks and data systems may be helpful in the optimum production, distribution, and consumption of educational "knowledge," they are means, not ends.

It perhaps bears repeating that education is not primarily an academic discipline, but a human process. All humans engage in education, in some form or another, in greater or lesser degree. The sciences are, on the other hand, primarily academic disciplines; the development and accumulation of "knowledge" in the sciences involves a relatively small, properly trained, elite. To make educational "knowledge" as unintelligible to the layman as the expanding "knowledges" of science are would be to miss the ultimate aim of what and whom educational knowledge should be for. At the same time, the patterns of "knowledge" production, distribution, and consumption which have evolved to "serve" organized sciencing are not necessarily appropriate to "serve" the people with respect to their present and potential interests in and concerns with education.

For people, "knowledge" is that which is useful and used in the forging of human identity, in human perception and judgment, in some person's doing what is or needs to be done, in the living of life. Educational knowledge should not, therefore, be depersonalized or disembodied. For people, "knowledge" is that which has <u>personal</u> utility and relevance. The "knowledge" by which people live life--and this means the "knowledge" by which people practice "education"--is not a static commodity having relevance apart from their lives. For people, such "knowledge" is created in and distributed through human relationships. The criteria for the legitimacy of "knowledge"

in the larger human society are not to be found in disembodied research data, but in social covenants. If large numbers of people are to have and use the advantage of educational "knowledge," it will have to be in and through these traditional patterns of the creation, sharing, and legitimation of social realities. The model of "knowledge utilization" in formal science which presumes the sufficiency of an "information network" may be not only inappropriate for the production, distribution, and consumption of educational "knowledge" by the people; it may be misleading. For optimizing the production, distribution, and consumption of educational "knowledge" by all of the people, we need a different model.

What are needed are models, policies, programs, and techniques which key to the ways in which people actually produce, distribute, and consume knowledge relevant to their everyday lives and concerns--one of which is education. We urge that the OE (and particularly the NIE) give highest priority to the development of such alternative models, policies, programs, and techniques. One such alternative is presented in this report under "Summary Statement." Some implications for implementation are given in the section on "Program Recommendations."

## Program Recommendations

In this section are summarized the major program recommendations to derive from our study.

1. Some increasing allocation should be made toward the development of autonomous or semi-autonomous agencies for analyzing the wants and needs of parents, children, and others for educational information, for initiating and guiding the "research" or other efforts that would produce that information, and for acquiring, storing, packaging, and distributing that information where and when and in the form needed or wanted by that market.

2. Explorations should be made of ways and means of better reaching that market (parents, children, "the public") through existing channels--e.g., public libraries, the mass media, museums, shopping centers--and through some of the newer nonprint media--e.g., films, channel TV, videocassettes, etc.

3. At the same time, some effort should be made to explore the possible benefits of altering the present schemes for the production, packaging, and distribution of "research" and other educational data along the lines suggested in Research Memorandum #10.

4. Whether the NIE comes to emphasize either schooling or human education at the expense of the other, perhaps the most crucial factor will remain that of developing a positive cultural image or metaphor of the learning (educated, educable) human being as the valued human being in this society.[1] If this is not achieved, none of our other efforts will be very effective, or very cost effective. In our study, we were often brought back forcibly to this "key" to the whole enterprise of improving American schooling and patterns of American education. It thus seems inescapable to us that some systematic and continued effort be put into this objective. It can obviously be undertaken directly only through the mass media. What is implied, therefore, is a program for working through the mass media at the level of symbolic realities in a way perhaps never before attempted by the OE. In Japan, television is looked upon as an arm of the ministry of education. If our children (and perhaps all of our citizens) are to be educated mainly via television, doesn't it become illogical for the OE to be left with interest primarily only in schooling?

We refer here not to direct attempts to educate people via television, but to the broad cultural impact which popular television carries with respect to the basic issues with which OE ought to be concerned.[2] Such objectives are hardly to be accomplished by some form of censorship. What is required is active and systematic participation in the major sources of present and future cultural images of education, and the metaphors of educated

(learning, educable) men and women typically created or maintained in the fare of the mass media.

It is our conclusion that one way of initiating this long-range effort would be to develop a comprehensive, dramatic, first-class documentary or documentary series on "Man and Education," the purpose of which would be to present via prime-time television (and elsewhere) the fundamental role which education has and does play in the conscious life of individual men and of every human society. We specifically recommend that this be done as the basis for planning and programming in this whole area.

5. Equally important, we believe, is a systematic program for developing an understanding of what the criteria for the schooling system are to be, if those criteria are to have widespread consensus amongst all of those who have a vested interest in the formal schooling establishment. Beyond this, those aspects of the schooling (and teacher) tasks which are determinate and completeable need to be clearly distinguished from those that are not. Only those support activities (including "research") related to the determinate and completeable aspects of the schooling (and teacher) tasks will have linearly and logically demonstrable cost effectiveness or efficiency, or directly measurable "utilization." This should help to clarify OE's (and NIE's) two major tasks and their differing rationales.

6. Consistent with number 4. above, we believe there should be research on and programs for changing the conception of teacher

and teacher-roles, learner and learner-roles held by teachers, other educators, and pupils, and by the public-at-large. These conceptions should be consistent with the rationale argued in number 4. above.

7. There should be additional exploration of ways and means for providing educators with the kinds of information they say they want and/or need. It still seems to us highly possible that an existing magazine might be altered or a new magazine inaugurated which would contribute to this objective. We believe, as stated elsewhere in this report, that a well-planned and conducted demonstration experiment would show that local newspapers could provide a wide range of relevant educational information ("knowledge") to their readers which they do not now provide, which would at the same time strengthen them. In addition, we believe that further exploration should be made of the potential of new and even novel nonprint media (e.g., audio and video news cassettes) and of the differing states of receptivity of those who comprise the "market" (e.g., commuting time, teacher lounges, hallways and elevators at conventions and conferences, the home television via prerecorded cassette, etc.).

8. To answer the question of "Education for what?" we suggest that the OE (and the NIE) should take a much more active role in encouraging the networks and independent producers of both documentaries and dramatic television programs to present more alternative lifestyles for people--beyond the usual stereotypes.

People in large numbers are not likely to be favorably disposed toward education unless they can comprehend the process as leading to valued objectives along the way.

9. Systems for the acquisition and storage of large quantities of data present more than just the problem of developing schemes for acquisition, entry, storage, and coding for later and highly variable retrieval patterns. They present the problem of how to "kill" or drop out or get rid of data having less than marginal market demand or relevance ("datacide"). Our great and increasing capacities for data storage and manipulation--along with some of our broader cultural philosophies--have led us to assume that all data are equal. All data are not equal. Further, because educational "researchers" are typically a-historical (more rather than less oblivious to what has been said and done in the past--perhaps because they are themselves not good "knowledge utilizers," a subject which perhaps deserves some attention in the future), and given the rate of the data "explosion," it is ever more likely that educational "researchers" will re-discover something that was already exhaustively treated by the previous generation of a-historical educational "researchers." Practicing educators are not likely to return again to a resource which has no value for them simply because it provides data they are already familiar with (PREP Report #25 is a case in point).

10. More and better "adult" and "vocational" (both bad terms) educational opportunities should be provided. As it becomes

more possible for people to undertake more than one career in their lifetimes, the opportunity for specialized learning programs and programs for specialized interest groups becomes larger for the OE. In the case of programs for special interest and "professional" groups, much use could be made of their existing media--their conventions, publications, etc. As all of the mass media historically become specialized, other opportunities for serving various epistemic communities emerge--as one might reach American youth best through the established phonograph record industry. For programs of this sort, the OE might profitably follow the military and industrial, and not the academic model, of educational programming.

11. A very promising area that needs further and more systematic exploration is that of employing simulation as a means of (a) permitting educators to experience a new way of thinking about or doing things in advance of the decision to undertake the change; and (b) enabling educational administrators the opportunity to anticipate some of the human and organizational problems which may line the implementation path of a change if the decision for a particular change is made. An alternative, of course, is that of selecting one school within a district as the "experimental" school for trying out new ideas in fact before they are adopted district-wide. Simulations are more flexible, however, for they may be made portable, and they can be employed by individuals, groups, organizations, districts, etc.

12. To the extent that the "extension agent" concept is pursued, there should be continuing exploration of the ways in which nonprint media and simulation might be deployed to augment his efforts, both before, during, and after his personal contacts with educators. Also, these alternatives should be kept in mind in devising the training of these "extension agents." For example, a film such as the one prepared for our Pilot Study #2 could be quite useful in the training of these educational specialists.

13. Most of the "research" presently conducted for the OE--and indeed most educational "research" as a whole--is "propositional" research--i.e., research which is consistent with the philosophies and conditions and aims of the scientific disciplines. Some effort needs to be made to develop and encourage ways of research which are more consistent with the philosophies, conditions, and aims of the operational disciplines (see our "Summary Statement" for a further discussion of this distinction). Again, simulations of various types provide perhaps the best means presently available for "doing research" relevant to the needs and the interests of those in the operational disciplines. The extended simulation for the education of journalists and mass communication leaders at the University of Iowa is one example of how this kind of research differs from the more typical "scientific" or "propositional" research.

14. Alternative <u>postures</u> to the academic-"scientific" posture in the production and distribution of educational "research"

data should be explored. It is perhaps suggestive of the fallacy in today's present "scientistic" posture that the Journal of Irreproducible Results, a satire on research reporting in the various scientific disciplines, has a larger paid subscription list than most of the research journals being spoofed. Humor, irony, even games might be considered as alternative postures, with beneficial results.

15. Finally, some effort should be put into developing some theoretical bases for educational system design. Educational systems include researchers, schools, homes, parents, teachers, children, school boards, critics, educational journalists, teacher training programs, mass culture, and all of the related data systems and communication systems and their structural arrangements. We have very little theoretical rationale for how such systems might best be designed, given the system criteria discussed in number 5. above. A great deal more cross-disciplinary work needs to be done in this area, and the NIE might advantageously take the lead in catalyzing it.

## Notes and References

[1]The fact that Americans spend about twice as much on food for their dogs and cats as they do for textbooks for their children is perhaps indicative of the present status of formal education in American culture (NEA News, February 13, 1972).

[2]Cf. George Gerbner, "Mass Communication: Environment of Social Behavior," Scientific American, September, 1972, for a recent and cogent statement of this phenomenon.

# TOWARD A RECONCEPTUALIZATION OF KNOWLEDGE UTILIZATION IN EDUCATION

## Some Reactions to the Report and Recommendations

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At first reading, these relatively brief statements assert little that is surprisingly new--little that others have not posited in one fashion or another over a period of many years. Moreover, what began as a rather clear-cut, explicit proposition--viz., "to analyze the condition of 'knowledge utilization' in the (capital "E") Education enterprise"--increasingly gave way to more expanded consideration of the broader functional concern of education as a cultural phenomenon, with all of the exigencies with which that function must deal: values, purposes, processes, motivations, ideas, systems, biases, and socio-ideology mechanisms. In addition, these "messages" are merely the shadows (however truly isomorphic) of the intensive deliberations and studies which underlie them. They are the tops of the proverbial icebergs of the "problem." I know about that simply because I was at The University of Iowa during the year that this project was in progress.

But clearly, the underlying conditions of dialogue and stimulation which this study generated are not so easily dismissed by

a "first reading." What is said here, if attended carefully, spells a reasoned and balanced set of conclusions. The value positions may indeed dominate the summary report, policy statements, and program recommendations, but those conceptualizations are the essence of the conclusions and constitute the vitality of its views. For what this set of documents imparts is at the heart of this nation's future, not only in terms of its production and utilization of knowledge within the formalized educational tradition but, as well, in terms of its healthy survival over-time as a viable national social system. Let me pursue that "high-sounding" assertion.

Knowledge for What?

At the risk of turning-off everybody within at least ten square miles, I quote the poet of the great un-washed; Edward Markham once observed:

> "...why build these cities glorious if man unbuilded goes. In vain, we build the world unless the builder also grows."

In a simple anthropological sense, Education is--like religion, subsistence, and the family--a cultural invention! It's operational function is to prepare young people to assume adult roles in the society. Whether one's frame of reference is a primitive, or complex society, that abstract function is universal. But, the particular values which intrude within a culture alter the idiosyncratic configurations which some particular society's educational system follows. Its operational definition follows the patterns of ideology which

that society decrees--perhaps by some crude evolutionary consensus--or, in other cases, by relatively explicit policy-definitions derived from explicit national purposes. To that extent, at least, there is no compelling necessity for the formal educational system to survive; that is, its general structure is neither permanent nor irrevocable. We can't know with much certainty whether mass education works or not--all of the evidence is far from in.

Talcott Parsons has put this system into theoretical perspective by characterizing a pluralistic society (such as the U.S.) as an "adaptive" one; a monolithic society (such as the U.S.S.R.) as a "goal-attainment" society; and a culturally stabilized system (such as India) as a "pattern-maintenance" society. In other words, Parsons would assume that most of the "Western" industrialized nations are mostly concerned with means rather than ends--they are concerned with all of the processes of "becoming," "progressing," "innovating," etc. and are not too preoccupied with the ultimate nature of the systematic consequences. On the other hand, a societal system like that of the Soviet Union is preoccupied with an end: the realization of the optimal socialistic form, rather than an "adaptive-oriented" social order which optimizes opportunity and "getting-with-it." The Indian system with its traditional emphasis on caste and hereditary privilege neither places primacy on means nor ends but on the consistent stabilization of internal patterns.[1]

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[1]See, e.g., Talcott Parsons. Societies. Englewood Cliffs, N. J.: Prentice-Hall, 1968.

All of this is merely by way of suggesting that one can never consider (at least thoughtfully) the nature of a society's general system of formal education without discussion of its ultimate purposes whether those purposes are concerned with what man "ought" to be or what the educational delivery system "ought" to encompass.

Considering this nation's ideology, it is obviously consonant that we have been overly preoccupied with methodology, process, and--a hopelessly inadequate concept--teaching. This mentality, admittedly cultural in its causes, has too frequently relegated learning and the learner to less significant status. The means have dominated.

Among its fundamental "soundings," this report pleads for a reconsideration of that imbalance; this society is changing; its traditional emphasis on adaptivity, on means, is not quite so appropriate as in the past. Thus, the call is not so much for a total reversal of cultural pattern, for that is (barring some cataclysmic revolution) irreversable, but for a rational reassessment of general functions and the attendant re-direction of broad educational effort which current cultural events require. This mandates a "catching-up" of institutional process with technological effect; a bridging-of-the-gap between what Education has helped to produce (technology) and what it must do to help people determine the ways they can live more abundantly in a world in which technology is omnipresent.

It is for this reason that the summary spends some intellectual effort with the idea of "schooling." Not because "schooling" is likely to fade into the abyss of oblivion; on the contrary,

because schooling has become so much an aspect of the general bureaucratic syndrome, it has clearly displaced its more viable goals and purposes with the more bureaucratically-dominant one of survival itself.

The reassessment stated above regarding means for achieving redirection of broad educational effort is repeatedly emphasized in the "Summary Statement" by virtue of the phrase "epistemic communities." In order to truly appreciate the essence of the year-long study conducted by the Iowa group, the centrality of this concept, "epistemic community," is essential.

An epistemic community is a quasi-parochial, cultural subcomponent in which not only are values and appropriate data clearly known but intuitively internalized. Thus, the following statement in the summary report is fundamentally meaningful:

> "The apparent aversion of educators to research data is not a product of those data, but of the epistemic community to which educators belong and, within which they acquire and 'utilize' information. The multiplier is inside that system, not outside it."[2]

Accordingly, it is understandable that the educationistic

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[2]"Summary Statement: Toward a Reconceptualization of Knowledge Utilization in Education," p. 9.

conceptualization of "knowledge utilization" has tended to be operationalized in terms of a linear relationship by which data are tied directly to methodology. Thus, the idea of "schooling" as a means-oriented endeavor is not only appealing but, as the summary report indicates, has created a propitiousness within the educational research establishment for finding attractive analogies in agricultural dissemination models and engineering systems.

What the report is emphasizing is not so much that what we are doing is necessarily "wrong" or even "inappropriate," but that we simply need to know both what we are doing, why we are doing it, and most important--what is it we want to do? The difference is very simply that between knowing what to do as opposed to knowing why what we do works or doesn't. The latter demands knowledge of purpose-definition processes; the former merely requires manipulation. Knowing "what" to do is more likely to lend itself to the application of knowledge to tasks that are both "completeable" and "determinate."

But what is the education task? ("It is altogether clear that it is altogether not so clear what the central and exclusive task of present-day educators in the U.S. is." p. 16--part II.)

Educators wherever they are found have always struggled with the problem of central purpose. The definition-of-purpose is difficult for them; traditionally, they have resolved this issue by a kind of territoriality truce; i.e., they have typically assumed that their major "right" is to determine the best ways to "do" education and it is the "right" of others to determine why it

should be done.

Yet this has, at best, been an uneasy truce. And in spite of the fact that the bulk of both funded and non-funded research has clearly emphasized delivery-systems, the notable "movements" in Education in this country in the last seventy-five years have turned not on methodology but on valued-purpose. These various "views" of Educational function have involved "child-centeredness," "content-based," "values," "responsiveness to the society" and so forth.[3]

From Piaget through Kilpatrick and Bruner, commentators have each thought they had discovered the best answers while in each case, one is left pondering the clear possibility that they had asked the wrong questions.

Whitehead put the issue in startling perspective:

> "The characteristic of physical science is, that it ignores all judgments of value . . . . It is purely matter-of-fact . . . .
>
> "From an abstract point of view, this exclusion of metaphysical inquiry is a pity. Such an inquiry is a necessary critique of the worth of science, to tell us what it all comes to."[4]

". . . to tell us what it all comes to," is the essence of

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[3]See, e.g., Wm. VanTil. Curriculum: Quest for Relevance. New York: Houghton-Mifflin, 1972. This series of essays effectively documents the variety of efforts which reflects the Education establishment's groping for purpose.

[4]A. N. Whitehead, "The Anatomy of Some Scientific Ideas" in Aims of Education. New York: Free Press edition, 1967. p. 121.

the problem in knowledge-production, utilization, and dissemination. With reference to all those aspects of the educational experience which are determinate, completeable, and hence, measureable, American education has always been immensely efficient and effective. Literacy is widespread; (as a matter of fact, ours is the only literate society in the history of the world--that in itself is an achievement of noble dimension.) We have produced artisans, doctors, lawyers, garage mechanics, statisticians, astronauts, accountants, clever criminals, and university professors. Regarding that which is (and always has been) determinate and completeable, our record is rather remarkable!

But that which constitutes an educated human being is not quite yet established.

Why is it an important concern? Because in spite of our monumental progress, people--in surprisingly large measure--are still "no damn good!"

At least some meshing of skill-acquisition (methodology?) and valued-purpose remains to be worked-out. No more dramatic manifestation of the pedagogical encounter, which comes closest to this articulation, is extant than the extensive simulation. By <u>extensive</u> simulation, I refer not to "games"--though that is part of it--but to systems of guided-instructional programming which place certain learners in situations wherein they <u>are</u> responsible for the consequences of their own behaviors, with appropriate "over-the-shoulder" supervision.

This particular "form" of knowledge-utilization is consistant with the idea that ultimately, it is the utilizer and the

"utilizing system" that determines effectiveness. Elaborate or simple systems of knowledge-production and dissemination assume that the data are appropriate to utilizers; thus that the data produced and disseminated do, in fact, have "utility." Whether this assumption holds or not is a function of those intimately linked in the epistemic community wherein utility is targeted and not in the system (sources) which produced the data and wherein, the assumption was originally posited. Clearly, as the report points out, in those circumstances wherein producer and utilizer are members of the same epistemic community, the assumption is facially valid.

Thus, an important and easily overlooked aspect of the "problem" is more systematic analysis of the nature, definition, and function of epistemic communities within the educational and educational-research establishment.

Consonant with that, I would add to the exceedingly sound policy and program recommendations of the study an operational emphasis on intensive and extensive simulation.

Under the auspices of both OE and NIE, a national and prestigious simulation "think-tank" should be established. Its function would be two-fold: to continuously analyze, evaluate, and comment about the epistemic social systems of education with emphasis upon cultural ends and, as well, to promulgate an ideology of simulation as a vehicle for bridging the gap between knowledge production/utilization. In this fashion, it is well to remember the following passage from Mark Twain's Tom Sawyer Abroad.

"And he cleared out with the hundred camels, and left that man to wander around poor and miserable and friendless the rest of his days in the Desert.

"Jim said he'd bet it was a lesson to him.

"'Yes,' Tom says, 'and like a considerable many lessons a body gets, they ain't no account, because the thing don't ever happen the same way again--and can't. The time Hen Scovil fell down the chimbly and cripples his back for life, everybody said it would be a lesson to him. What kind of a lesson? How was he going to use it? He couldn't climb chimblies no more, and he hadn't no more backs to break.'

"'All de same, Mars Tom, dey is sech a thing as learnin' by expe'ence. De Good Book say de burnt chile shun de fire.'

"'Well, I ain't denying that a thing's a lesson if it's a thing that can happen twice just the same way. There's lots of such things, and they educate a person, that's what Uncle Abner always said; but there's forty million lots of the other kind--the kind that don't happen the same way twice--and they ain't no real use, they ain't no more instructive than the small-pox. When you've got it, it ain't no good to find out you ought to been vaccinated, and it ain't no good to get vaccinated afterward,

"'because the small-pox don't come but once. But, on the other hand, Uncle Abner said that the person that had took a bull by the tail once had learned sixty or seventy times as much as a person that hadn't, and said a person that started to carry a cat home by the tail was gitting knowledge that was always going to be useful to him. But I can tell you, Uncle Abner was down on them people that's all the time trying to dig a lesson out of everything that happens, no matter whether . . . .'

"But Jim was asleep. Tom looked kind of ashamed, because you know a person always feels bad when he is talking uncommon fine and thinks the other person is admiring, and the other person goes to sleep that way."[5]

One cannot appreciate the scientific, existentialist, and metaphysical aspects of "carrying a cat home by the tail" until, under carefully monitored circumstances, he does indeed carry one thus. But equally vital, one should have some expert guidance as to whether that, or any other "lesson" is worth the experiencing of it or whether if in fact it is knowledge that's always "useful," it can best be learned in that or in other ways.

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[5]Mark Twain, "Tom Sawyer Abroad
guage and Concepts in Education. (edited by B. O. Smith and R. H. Ennis) Chicago, Ill.: Rand McNally & Company, 1961, p. 1.

Education is neither more nor less important perhaps than any other essential aspect of institutionalized behavior, but it is essential and its systematic essentiality demands that we confront the dimensions of its value. Schooling is an important dimension of the value of education; as the report asserts, "schooling" is likely an organizational manifestation of the institutionalization of education that will remain with us for awhile. But isn't education something more than that? Shouldn't it be?

# TOWARD A RECONCEPTUALIZATION OF KNOWLEDGE UTILIZATION IN EDUCATION

## Some Reactions to the Report and Recommendations

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ABSTRACT

This report proposes two further studies, both of them simple, and directed to the principal issue of the Knowledge Utilization Project. The first study places ethonographic observers in the offices of school administrators and of educational researchers. These observers look for the kinds of information the administrators use in making decisions, and for how the researchers decide what to study. Through direct observation rather than questionnaires and surveys, this study aims to determine the kinds of communication that actually take place between educational research and administration. The second study stimulates administrators and researchers to make self-studies of their knowledge utilization. Instead of using outside observers, this self-study is designed to obtain new information, and also to produce a Hawthorne effect--through increasing self-awareness to raise the quality and quantity of

knowledge utilization. Both studies permit the observation of the informal channels which carry most of the actual communication between knowledge producers and knowledge consumers.

I have reviewed in detail eight documents in this study, and I would like to propose two further studies that I believe are necessary to achieve the overall aims of the project. I understand those aims to be a comprehensive reassessment of the entire study of education, this reassessment to emphasize systems analysis and communication. We need to reassess whether the many studies of communication yield useful and relevant data on significant problems, and that those findings are the product of clear and controlled scientific methods of investigation. To these ends, I propose first a study of communication between education research and education administrators, and I propose secondly an educational self-study.

## I. The Utilization of Research in Solving Educational Problems

A major function of the Knowledge Utilization Study is to assess the link between educational research and educational operations. That link may be weak. It may be that the attempts to solve educational problems are too seldom the starting point for research, and conversely, the results of research are too seldom utilized in the operations.

Generally, a local program officer or superintendent of schools cannot use as much of the available research as he

himself would like. There is too much research for him to read, and too much of that research is of little relevance to him in his specific work. The research is often national and general. It is not presented in direct, applicable form. This in turn reduces the feedback from educational operations to research, and the research may suffer from isolation in not being applied.

This first proposal aims to determine the amount and kinds of communication that actually take place between specific research and educational operations. It also aims to determine the amount and kinds of communication that could be most effective. In other words, this first proposal is double-edged, like a pair of scissors.

The practical value of this proposal goes beyond the immediate improvement of research, of educational operation, and of communication between the two. The value actually extends to the students in the schools themselves. Their very education is often directly affected by the relations among educational institutions, and this includes both research institutions and actual schools.

The theoretical value of this study is that it fills a large and significant gap in our knowledge of communication itself. We have many studies of the diffusion of information, and many studies of communication channels in organizations. But there are great gaps in our knowledge of the inter-communication between research and operational enterprises.

That inter-communication is a problem in many fields besides education: it must surely be a problem in welfare, in medicine, and in any field dealing with public services.

Accordingly, I propose that we begin by considering three basic problems. The first looks at the kind of information that educational administrators use in making decisions. What kinds of actual research findings are used, and how are they used, and how much is used? It is quite likely that older and simpler data and frames of reference are used more often than recent and more complex ones. It is also to be expected that some findings are used more than others because of their form of presentation, their general orientation, and their source.

Secondly, I propose that we look at the researcher in the same way I have proposed we look at the educational administrator. To what extent is the researcher aware of the problems of educational administrators? From what kinds of sources does the researcher learn about these problems? How does the researcher decide what to study, and how does he learn of the effects of his study in the field?

Thirdly, I would address the study of both researcher and administrator from a longitudinal point of view. In the course of years and decades, how is the communication between research and operations developed? We often speak of the link between the agricultural experiment stations and the farmers, or more recently and closer to home, the links between regional

education laboratories and local school districts, both those links did not come into being fully blown overnight. How were they developed? When were these links strongest and when weakest?

I propose, therefore, a three-part study: the first looks at the educational administrator and the information he uses in making decisions; the second looks at the researcher in the same way; and the third is a longitudinal study of the relation between the two.

I propose that this investigation be undertaken by a natural history approach rather than by survey research, experimental, or other approaches. The natural history approach is an ethnographic method which directly observes human activity meeting the tasks of daily life, the way an anthropologist would observe Pacific Islanders making a canoe or bathing a baby. I doubt that we can send an educational administrator a questionnaire and thereby determine what research information he uses in making decisions. The results of the questionnaire approach or of survey research would be quite suspect. Instead, I would put an observer into the office of a school superintendent in order to determine what research the superintendent utilizes in making educational decisions. We need this kind of direct observation, this natural history approach, for six months or a year before we would be even able to design more formal research instruments such as questionnaires and surveys. I would observe researchers in the

same way. Determining the amounts and kinds of communication that actually take place between a given researcher and practicing educators, I would put an anthropological observer in the researcher's office. Instead of beginning with the diffusion of research findings, which I believe is too abstract and generalized for us to see the actual communication between educational research and educational operations, I would look at the actual behaviors of individual researchers and administrators.

After we understand what information both the administrators and the researcher use, we can compare this with all the information that is available. And we can then answer the question: What are the special characteristics of the information that is used that distinguish it from all the information that is available? There should be significant differences in the form of presentation, the general orientation, and the source of the research that administrators use, and of the field report that the researchers read. I suspect there should also be a significant time lag, older reports being used more often than more recent ones. In studying this time lag, we should find that certain channels speed up the utilization of knowledge, and that these channels have been built up in the course of time. This raises the question: How were these channels developed? To answer this question calls for the third part of this proposal, a longitudinal study. This first proposal is designed

to be direct and to the point of studying knowledge utilization in this area, and is meant to be basic and simple.

## II. Self-Studies

The first proposal calls for outside observers; the second proposal calls for self-observation. This proposal aims to get the researchers and administrators to study their own patterns of communication with one another. Such self-study will provide a Hawthorne effect. It also represents a new approach in applied anthropology at communication studies. The anthropologist does not elicit and analyze the data himself, but he helps the people to start the study of questions they themselves think are important.

The purely descriptive and theoretical studies that anthropologists make of peoples at home and abroad are often disputed today by the very people who have been studied. Outsiders like anthropologists are no longer able to speak for or even to describe and theorize about many groups of people. If the researcher reports on La Vida in a ghetto, the people of that ghetto are likely to disagree with his findings. The same can well be true if an anthropologist sits in an educational administrator's office as an observer. It is not only the people in the ghetto who want to analyze their own condition, formulate their own problems, and chart their own courses. Therefore, the basic aim of this second proposal is to develop a self-study.

Such a study can have great significance for the administrators and researchers themselves, stimulate the communication between the two by making each more aware of the other, and increase the utilization of knowledge in education.

Administrators and researchers are generally aware of their symbiosis, but their awareness may be too general and vague for planning and administering educational research. At other times, their awareness may be too specific and scattered. For a clearer, overall understanding, the administrators and researchers may have to make a concerted and implicit attempt to make an actual self-study.

Anthropologists can help them get started and help them proceed. But the anthropologists would not set up the problems and the structure of the study; the administrators and researchers would determine these problems and structures themselves.

An anthropologist would get an administrator started on this self-study by asking him simply: What researchers do you know in education? How do you know them? Where and when do you talk with them, or read their work? What kinds of work do you read? This begins the investigation of interaction patterns between administrators and researchers by asking about networks and channels, messages and meanings.

This starting point is a series of questions that are factual, descriptive, and empirical. It is a non-anxiety-arousing beginning for a self-study. It can be pursued in

extensive detail. Unlike questions of autobiography, it is oriented to the current activities of the administrator. And it avoids the morass of personal values or assumptions of goals that are generally false starts for self-analysis.

If there is a problem on the utilization of knowledge in education, we can best solve that problem by stimulating administrators and researchers to formulate that problem themselves. And this means we have to free them of external controls in defining the problem. There are, however, two kinds of control inherent in this proposal. The first is the interaction and feedback involved in any self-studies. Findings of the administrators and of the researchers about their own communication patterns would be published in some form in order to get feedback and general reviews and validations of the findings. This is as potent a reliability check and control as most statistical or experimental controls.

The second control would maintain the rights of human subjects in social research. There are rights of privacy, of each man for himself and for others, and they would have to be provided for within the context of a self-study. This also provides new controls on the anthropologist. Older forms of anthropological training emphasize census-taking, interviewing, and even questionnaires. When the anthropologist helps people to start a self-study, the anthropologist finds himself in a new

role and needs new kinds of tools, and controls, and proficiencies. Instead of eliciting and analyzing the information himself, he needs to develop the skills of letting the people themselves gather and analyze the information.

To train anthropologists to stimulate self-studies in other groups would require work on the principles and methods of applied anthropology, on communication, and on the problems of educational administrators and researchers.

This proposal is also designed to produce a Hawthorne effect in education. As Elton Mayo found in the Western Electric plant at Hawthorne, when people are given the attention of being studied and they become involved in the study themselves, their motivation and productivity increases. By promoting a self-study among educational administrators and researchers on the utilization of knowledge, we can increase that utilization through this Hawthorne effect.

Through ethnographic observation and self-study we can uncover the informal channels of communication by which administrators and researchers learn most about each others' work. Most of this learning is outside official contacts, beyond scheduled meetings, library research, and other overt media of diffusion. The formal parts of knowledge utilization are openly programmed and are under administrative control. The informal parts are much more difficult to observe. But if we

ignore those informal channels, and regard the diffusion process too narrowly, we may ignore one of the most important parts of the knowledge utilization system.



END